



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/468,002	12/20/1999	PAUL NEGULESCU	AURO1130-2	3109

7590 05/02/2003
LISA A HAILE
GRAY CARY WARE & FREIDENRICH LLP
4365 EXECUTIVE DRIVE
SUITE 1600
SAN DIEGO, CA 92121

EXAMINER

LANDSMAN, ROBERT S

ART UNIT	PAPER NUMBER
----------	--------------

1647

DATE MAILED: 05/02/2003

19

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/468,002

Applicant(s)

NEGULESCU ET AL.

Examiner

Robert Landsman

Art Unit

1647

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 03 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 66-70,74,78,80,84-88,93,97-101 and 105-145 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 66-70,74,78,80,84-88,93,97-101 and 105-145 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice References Cited (PTO-892)
- 2) ☐ Notice Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Informal Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Formal Matters

- A. The Examiner realized that page 2 of the Office Action dated 10/24/02 was not included with the mailing of the Office Action. Therefore, the information on that page 2 which is still pertinent to this Office Action is included below. In addition, the Examiner apologizes for the lengthy prosecution of this application. However, and by no fault of Applicants, due to the large number of claims, the length of some of the claims, as well as overall complexity (e.g. numerous dependencies) of the claims due to numerous limitations, not all issues have been identified in previous Office Actions.
- B. Amendment E, filed 8/27/02, has been entered into the record.
- C. Amendment F, filed 3/3/03, has been entered into the record.
- D. Claims 63, 66-71, 74, 75, 78-81, 84-90, 93, 94, 97-102 and 105-138 were pending in the application. In Amendment E, new claims 139-145 were added. Therefore, claims 63, 66-71, 74, 75, 78-81, 84-90, 93, 94, 97-102 and 105-145 were pending. However, in Amendment F, Applicant cancelled claims 63, 71, 75, 79, 81, 89, 90, 94 and 102. Therefore, claims 66-70, 74, 78, 80, 84-88, 93, 97-101 and 105-145 are the subject of this Office Action.
- E. All Statutes under 35 USC not found in this Office Action can be found, cited in full, in a previous Office Action.

2. Specification

- A. The objection to the title has been withdrawn since Applicants have amended the title to more closely reflect the claimed subject matter.
- B. Applicants have amended the first line of the specification to recite that the present application claims priority to U.S. Provisional Application 60/020,234. However, the specification remains objected to since the priority data in the first line of the specification does not claim priority to (is a CON of) U.S. Application No. 08/878,801.

3. Claim Objections

- A. All claim objections stated in the Office Action dated 8/21/02 have been withdrawn in view of Applicants' amendments to the claims. However, new claim objections appear below.

Art Unit: 1647

B. The syntax of claims 139-145 can be improved by combining the limitations of part (iii) of the claim, which recites that the inducible promoter is CMV linked to a tet operator, with part (1). For example:

(i) providing a COS-7 cell comprising:

(a) "a first heterologous inducible promoter, CMV, operably linked to a heptamerized tet operator and a first polynucleotide encoding a functional..."

C. The syntax of claims 139-145 can be improved by removing the limitation in part (c) which states "wherein induced expression of said G α 15 is sufficient to permit promiscuous coupling to said GPCR" since this conclusion can be drawn from the preceding phrase which states that a 3-fold increase in G α 15 expression is required. This increased expression should inherently produce this coupling.

4. Claim Rejections - 35 USC § 112, first paragraph – scope of enablement

A. The rejection of all claims under 35 USC 112, first paragraph, as stated on page 3 of the Office Action dated 10/24/02 has been withdrawn in view of Applicant's amendments to the claims to limit the cell line to COS-7 cells.

B. The rejection of all claims under 35 USC 112, first paragraph, regarding the requirement for deposit of biological material, has been withdrawn since Applicants have limited their claims to the use of COS-7 cells.

5. Claim Rejections - 35 USC § 112, second paragraph

A. The rejection of all claims under 35 USC 112, second paragraph, for the reasons already of record on page 4 of the Office Action dated 10/24/02 has been withdrawn since Applicant has amended the claims to add more complete method steps. These claims now recite the use of the specific stable COS-7 cells disclosed in the specification.

Claims 66-70, 74, 78, 80, 84-88, 93, 97-101 and 105-145 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1647

B. Claims 66-70, 81, 84-88, 97-101, 105-109 and 139, 142, 144 and 145 are confusing since it is not clear how a reported gene can be used to detect activation of the GPCR if a reporter gene substrate is not required until claims 110, 112, 114, 116.

C. Claims 68-70, 86-88, 99-101 and 107-109 are confusing since it is not clear what the purpose is of increasing calcium levels inside the cell, or for using PMA. Nothing in the independent claims appears to require, or depend on, increased calcium levels, or PMA.

D. Claims 74, 78, 93, 126, 127, 128 are confusing since it is not known what the purpose is of providing an intracellular calcium indicator, or how this indicator relates to the claimed methods.

E. Claims 80, 84, 97 and 105 are confusing since it is not clear what process in the independent claims will cause a change in fluorescence.

F. Claims 139-145 are confusing since the recitation of "first heterologous inducible promoter" gives the impression that there is more than one inducible promoter. This rejection could be overcome by amending the claim as recited in paragraph B in the above section entitled "Claim Objections."

G. Claims 139-145 are confusing since it is not understood how the polynucleotide encoding a tet-dependent transactivator linked to a constitutive promoter relates to the rest of the invention. In other words, it doesn't appear that the tet-dependent transactivator is required for successful execution of the invention.

H. Claims 139-145 are confusing since it is not understood what the requirement is of the claimed cell line regarding arising from functional cell analysis, nor is it clear what functional cell analyses and signal transduction systems would be required to identify these cell lines. In addition, especially regarding claims 140, 141 and 143, the claims recite that the cells have already been subjected to functional analysis before the implementation of the claimed assay. However, it appears that this signal transduction detection system is being used twice.

Art Unit: 1647

I. Claim 145 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: providing a control step to show that the desired effects are occurring specifically through the GPCR of the claim, as recited in claims 133-138.

J. Claims 139-145 are confusing since it is not clear what the first heterologous inducible promoter provides low level expression of. To be clear, the claim should be amended to recite "...low level expression of $G\alpha 15$..."

The remaining claims are rejected since they depend from rejected claims.

Advisory information

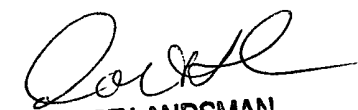
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Landsman whose telephone number is (703) 306-3407. The examiner can normally be reached on Monday - Friday from 8:00 AM to 5:00 PM (Eastern time) and alternate Fridays from 8:00 AM to 5:00 PM (Eastern time).

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Gary Kunz, can be reached on (703) 308-4623.

Official papers filed by fax should be directed to (703) 308-4242. Fax draft or informal communications with the examiner should be directed to (703) 308-0294.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Robert Landsman, Ph.D.
Patent Examiner
Group 1600
May 01, 2003


ROBERT LANDSMAN
PATENT EXAMINER